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ABSTRACT

This report of the North Carolina Advancement School is the fifth in a series of research reports describing results derived from working with underachieving boys. The purpose of the school is to define and identify possible causes and remedies of underachievement. Analysis of the data obtained on fourth- and fifth-grade boys who attended the school during the summer of 1969 indicates that significant changes resulted in several areas. One year after returning to their home school, both groups of students evidenced a greater ability to assume responsibility for their own learning, less alienation from school, and improved academic performance. Fourth-graders showed more improvement in behavior, while those in grade 5 made greater improvement in grades. On the basis of these results, there are indications that younger students benefit more from a program designed to remedy underachievement. The students involved in this study will continue to be the subjects of follow-up studies. [For related reports, see ED 045 761-765, and UD 011 487.] (Author/JW)

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A RESEARCH REPORT OF

THE NORTH CAROLINA ADVANCEMENT SCHOOL:

SUMMER SESSION, 1969

Submitted to the Board of Governors
and the North Carolina State Board of Education

Winston-Salem, North Carolina

January, 1971

John N. Bridgman, Jr., Director
James Lee Howard, Assistant Director
Richard F. Allen, Coordinator of Guidance

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FOREWORD

This report is the fifth in a series of research reports describing results derived from working with underachieving boys from all parts of the state of North Carolina. It represents our continuing efforts to further define and identify possible causes and remedies of underachievement.

The results as reported in this volume can best be understood with a knowledge of the contents of previous volumes of The North Carolina Advancement School research reports, as listed in the Bibliography. In addition, it should be understood that one major purpose of this report is to identify characteristics of underachievers in the early school years. The results as reported herein are most gratifying in that we were able to go beyond the goal of identifying characteristics to that of providing an effective treatment program. These results have proved to be most rewarding, particularly in view of the fact that the summer session consisted of only eight weeks.

ACKNOWLEDGEMENTS

Gratitude is expressed to the Board of Governors and to the State Board of Education for their continuing support and encouragement and for their meaningful advice and directions in carrying to fruition the purposes of the Advancement School as set forth by the North Carolina Legislature. The assistance of Mr. A. C. Davis, Dr. H. T. Conner, and Dr. Jerome Melton, who served as special consultants to the Board, has been of particular significance in planning and implementing the program.

Grateful appreciation is extended to Dr. Scott Gehman, consultant psychologist from Duke University, and to Dr. Kinnard White, consultant in educational research from the University of North Carolina, for their help in designing this study and for their invaluable assistance in carrying out the objectives of the school.

Ernestine Godfrey, Editor

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INTRODUCTION

Attempts to research causes and remedies of underachievement among pre-adolescents were begun by the North Carolina Advancement School in the summer of 1968, when rising sixth- and seventh-grade boys were enrolled for a period of eight weeks. Results of research conducted that term indicated that the residential treatment program implemented at the Advancement School was more effective with pre-adolescents than with older students.[1] Research also pointed to a need to identify characteristics of underachievement at an even earlier age.

On the basis of recommendations at the conclusion of the 1968 summer term, the Advancement School admitted rising fourth- and fifth-grade underachieving boys for the 1969 summer term. Ninety-six students from throughout the state of North Carolina were enrolled for a period of eight weeks. Of these ninety-six students, thirty-two were rising fourth-graders and sixty-four were rising fifth-graders. For the purpose of this study, the underachiever was defined as any student with average or above-average intelligence who was not achieving at his expected level as assessed by standardized test scores and academic record. Selection of students was made randomly from all qualified applicants.

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[1] The North Carolina Advancement School Research Report, Summer, 1968. Winston-Salem, N. C., January 1969.

The Instructional Program. The instructional program was basically the same as implemented by the North Carolina Advancement School in earlier sessions and described in previous research reports.[2] Emphasis was given to the role of counseling in helping students identify and begin to remedy their specific learning problems. A learning center emphasized development of skills in the areas of reading and mathematics.

Each boy was randomly assigned to a house of sixteen students. Team teaching was utilized, with a team of three teachers working with students in language arts and skill development in the morning, and another team of three teachers working with students during the afternoon in an exploratory interest program.

Some adjustments and modifications in the program were necessary because of the young age of students. Because the younger students were less able to verbalize their feelings, counselors used "action-oriented" approaches in their work with the boys. Play was made a vital part of the counseling program.

A play therapy room was equipped with toys suitable for the age of the students. Toys were selected to allow students to express through play feelings such as aggression, hostility, passivity, etc. Counselors

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[2]See the North Carolina Advancement School Research Reports, Spring 1968; Summer 1968; and Fall 1968 and Spring 1969.

attempted, within this setting, to reflect the feelings expressed by the boys during play.

Some adjustments were also made for the different behavior exhibited by the younger students. The younger boys tended to be more hyperactive and attention spans were shorter. Instructional activities for the students were planned with these differences taken into consideration.

In addition to the basic instructional program, an extensive intramural and recreational program was implemented after classes and on weekends.

Research Design. The summer 1969 program was designed to answer the questions:

1. What are the psychological and academic characteristics of fourth- and fifth-grade underachieving boys?
2. How do fourth- and fifth-grade boys respond to therapeutic and academic treatment?
3. How do fourth- and fifth-grade boys differ from older underachieving boys in characteristics and in response to the Advancement School program?

In addition to the results of research conducted during the summer of 1969, this study also describes results of a followup conducted after students had returned to their home school for a period of one year. The followup was designed to answer these questions:

1. Did the fourth- and fifth-grade underachievers evidence change as a result of undergoing the treatment program at the Advancement School?

2. If change did occur as a result of their attendance at the Advancement School, what was the nature of this change? Did the program result in improved academic performance?

COLLECTION OF DATA

Data were collected for this study using a pre-test, post-test, and followup design. Pre-test data were collected in June 1969 at the time students enrolled at the Advancement School; post-test data were collected in August 1969 at the completion of the summer term; and follow-up data were collected in May 1970 at the conclusion of the students' first year back in the home school.

All students were given the following tests on a pre-test, post-test basis:

1. The Gates Reading Survey,[3] which assesses the level of word recognition and comprehension.
2. The California Test of Personality,[4] which indicates adjustment. The test yields three scores: personal adjustment, a measure showing adjustment related to the individual's person-

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[3]The Gates Reading Survey (revised), Columbia University: Bureau of Publications, 1969.

[4]Lewis P. Thorpe, Willis W. Clarke, and Ernest W. Tiegs, California Test of Personality, Monterey, California: California Test Bureau (division of McGraw-Hill Book Co.), 1942.

ality; social adjustment, which measures adjustment in social settings; and total adjustment, which measures adjustment in various situations.

3. The Intellectual Achievement Responsibility (IAR) Scale,[5] which assesses school alienation. The IAR Scale is designed to assess the degree to which the student feels he is responsible for his school successes and failures or whether he feels school achievement is outside his control.
4. Semantic Differentials,[6] which were employed in asking the student to rate himself in four categories: Me at Home, Me at School, Teachers, and Me as I Would Like to Be (Ideal Self).

In addition to these tests, a pre-entrance rating of classroom behavior was obtained by having the home school teacher rate each student on the North Carolina Advancement School Student Behavior Inventory.[7] The inventory describes the student's overt behavior in

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[5]Virginia J. Crandall, W. Kathovsky, and S. Preston, "Motivational and Ability Determinants of Young Children's Intellectual Achievement Behaviors," Child Development, 33: 643-661, 1962.

[6]Based on the original work by C. E. Osgood, G. Soci, and P. Tannenbaum, The Measurement of Meaning, Urbana, Ill.: University of Illinois Press, 1957. The actual items came from a study conducted with elementary school children using this technique. See Daniel C. Neale and J. M. Proshek, "School Related Attitudes of Culturally Disadvantaged Elementary School Children," Journal of Educational Psychology, 58: 238-244, 1967.

[7]Richard Allen, Ernestine Godfrey, and the North Carolina Advancement School, North Carolina Advancement School Student Behavior Inventory, 1969.

four categories found to be prevalent among underachievers: aggression, anxiety, alienation, and activity. Teachers were asked to rate students in relation to the normal population of their grade at their school.

Data were collected for the followup by mail. The home school was asked to administer to the student the IAR Scale and the Semantic Differentials. The classroom teacher was asked to rate each student on the Student Behavior Inventory. Grades were obtained in order to compare academic performance before and after attendance at the Advancement School. Other pre-post measures were not obtained at the time of followup because of the necessity of conducting the followup by mail.

RESULTS OF THE STUDY

The pre-test and post-test means and standard deviations for each of the tests administered during the summer term are recorded in Tables 1 and 2. The means and standard deviations for fourth- and fifth-graders are recorded separately. An analysis of these data yielded the following results:

TABLE 1. Means and Standard Deviations for Rising FOURTH-GRADERS on Pre-Test and Post-Test Measures

Variable	N	Pre-Test		Post-Test		t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	
Gates Reading Survey [a]						
Vocabulary	21	3.36	0.69	3.38	1.10	.10
Comprehension	17	2.94	0.66	3.28	.78	1.93 [3]
California Test of Personality [b]						
Personal Adjustment	24	37.96	6.31	38.21	7.95	.21
Social Adjustment	24	35.83	6.94	35.75	7.15	-.05
Total Adjustment	24	36.21	7.06	37.29	7.50	.67
IAR Scale [c]						
Positive	24	11.46	2.98	12.29	2.80	1.25 [1]
Negative	24	8.88	3.19	10.00	2.92	1.34 [1]
Total	24	20.46	4.26	22.08	4.65	1.45 [1]
Semantic Differentials [c]						
Me at Home	24	11.96	1.85	12.96	1.57	2.66 [2]
Me at School	24	11.42	2.08	11.38	2.22	-.10
Teachers	24	12.79	2.41	11.71	2.71	-1.56
Ideal Self	23	13.96	1.19	14.26	1.36	.88

a - Results reported as grade equivalents
b - Results reported as t scores
c - Results reported as raw scores

1 - $p < .25$
2 - $p < .025$
3 - $p < .01$

TABLE 2. Means and Standard Deviations for Rising FIFTH-GRADERS on Pre-Test and Post-Test Measures

Variable	N	Pre-Test		Post-Test		t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	
Gates Reading Survey [a]						
Vocabulary	46	3.73	1.18	3.65	1.08	-.69
Comprehension	39	3.35	1.13	3.40	.81	.40
California Test of Personality [b]						
Personal Adjustment	44	40.70	6.06	42.20	8.36	1.56 [1]
Social Adjustment	44	37.61	7.67	37.77	8.58	.15
Total Adjustment	44	39.80	6.79	40.36	8.01	.59
IAR Scale [c]						
Positive	45	12.84	2.85	13.09	2.20	.53
Negative	45	10.07	2.95	10.71	2.95	1.57 [1]
Total	45	23.00	6.78	23.93	4.53	.40
Semantic Differentials [c]						
Me at Home	42	13.43	6.64	13.67	1.56	.23
Me at School	42	11.12	2.95	11.29	2.31	.33
Teachers	42	11.50	2.62	11.64	3.11	.26
Ideal Self	41	14.10	4.92	14.68	0.69	.78

a - Results reported as grade equivalents
b - Results reported as t scores
c - Results reported as raw scores

1 - $p < .25$
2 - $p < .025$
3 - $p < .01$

Reading. Pre-test measures were administered to students in the area of vocabulary and comprehension. Results indicated that rising fifth-grade boys were performing more than one year below the grade level to which they were being assigned for the coming school year. Rising fourth-graders were performing about six months below grade level in comprehension. Post-test results indicated a gain from 2.9 to 3.3 in comprehension for fourth-graders, an increase significant at the .01 level of confidence. In other areas there was little change.

Personality. Both fourth- and fifth-grade students were far below the national norm ($\bar{X}$=50) in measures of personal and social adjustment. Fifth-graders scored higher than fourth-graders, but both groups were from one to one and one-half standard deviations below the norm. Post-test results indicated some change during the term in personal adjustment.

Although no norms exist on the semantic differentials administered students, it can be observed in Tables 1 and 2 that fifth-graders tended to view themselves more favorably as a member of their family than did fourth-graders. Fourth-graders, however, viewed teachers more favorably than did the older group. On a scale ranging from 5-15, both groups scored high on view of their ideal self. As had been true in past terms with older boys, both the fourth- and fifth-graders viewed themselves more favorably at home at the conclusion of the term; for fourth-graders, the gain on this measure was

statistically significant ($p < .025$). Little change was noted in the remaining self-concept measures.

On the IAR Scale, fifth-graders evidenced a greater ability to accept responsibility for their successes and failures in school. Again, no norms exist for boys of these two grades; however, statewide norms for sixth-grade boys are as follows: Positive-13.3; Negative-12.1; Total-25.3.[8] Both fourth- and fifth-graders fell below these scores upon entrance. At the time of post-testing, both groups evidenced positive change toward the norm. The greatest difference between the Advancement School students of fourth- and fifth-grade and the norm group of sixth-graders lay in the younger boys' inability to assume responsibility for their school failures.

FOLLOWUP RESULTS

A comparison of pre-test results with followup results is presented in Table 3.

Attitudes. Dramatic growth was evidenced in the students' ability to accept responsibility for their own learning as measured by the IAR Scale. Both fourth- and fifth-graders increased in the total IAR scores and in negative scores (which assess responsibility for

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[8] Intelligence, Achievement, Self-Concepts, and Attitudes Among 1216 Typical Sixth- and Seventh-Grade Students in Fourteen North Carolina Public Schools, Winston-Salem, North Carolina: The North Carolina Advancement School, 1970.

TABLE 3. Comparison of Mean Scores for Rising Fourth- and Fifth-Grade Boys on Pre-Test and Followup Measures.*

Variable	FOURTH-GRADERS (N=20)					FIFTH-GRADERS (N=34)				
	Pre-Test		Followup		t	Pre-Test		Followup		t
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		$\bar{X}$	S.D.	$\bar{X}$	S.D.	
IAR Scale										
Positive	11.05	2.90	12.95	2.48	2.56[3]	12.79	2.58	12.56	2.71	-.47
Negative	8.68	3.48	13.32	2.77	4.45[4]	9.91	3.15	12.29	2.50	4.14[4]
Total	19.89	4.29	26.26	5.10	4.38[4]	22.71	5.78	24.85	4.39	1.55[1]
Semantic Differentials										
Me at Home	12.26	1.48	11.68	1.73	-1.05	13.82	8.06	12.36	1.91	-.92
Me at School	11.74	1.69	11.74	1.63	.00	11.25	3.18	11.54	1.82	.40
Teachers	13.47	1.26	11.74	1.88	-2.96[4]	12.04	2.49	11.93	2.18	-.17
Ideal Self	14.00	1.28	12.89	2.19	-2.15[2]	14.36	5.84	12.82	1.81	1.29
Student Behavior Inventory**										
Aggression	15.70	7.71	15.50	5.06	-.11	18.59	9.30	20.21	7.75	.89
Anxiety	10.10	3.78	9.40	3.22	-.68	10.35	4.23	11.15	2.85	1.02
Alienation	25.40	8.22	23.55	6.27	-.88	27.21	7.69	25.76	7.90	-.84
Activity	6.85	2.62	5.05	2.16	-3.09[4]	6.35	2.60	6.53	1.99	.33
Grade Point Averages										
Overall	1.55	0.49	1.71	0.41	1.25[1]	1.19	0.58	1.41	0.46	2.31[2]
Language Arts	1.57	0.51	1.79	0.43	1.38[1]	1.24	0.78	1.59	0.50	2.53[3]
Mathematics	1.57	0.51	1.64	0.63	0.56	0.97	0.77	1.33	0.60	3.20[4]
Science	1.55	0.69	1.64	0.50	0.43	1.32	0.68	1.53	0.66	1.56[1]
Social Studies	1.63	0.74	1.63	0.52	0.00	1.24	0.82	1.24	0.70	0.00

*Scores were computed only for those students for whom both pre-test and followup data were available.

**Pre-test behavior ratings were obtained from the students' home schools prior to admission.

1 = $p < .25$; 2 = $p < .05$; 3 = $p < .025$; 4 = $p < .01$

failures.), Fourth-graders' scores on Positive, Negative, and Total were all significant at levels ranging from .025 to .01. Fifth-graders' scores on Negative were significant at the .01 level of confidence. These results indicated that, after treatment at the Advancement School, students did show a much greater ability to assume responsibility for their own successes and failures in school and tended to place less blame on external factors, such as teachers, parents, etc. Fourth-graders increased on this measure more than did fifth-graders, and scores of fourth-graders on the occasion of the followup surpassed the norms for sixth-grade students.

On the Semantic Differentials, change was observed in two categories--Teachers and Ideal Self. The assessment of fourth-graders for "Teachers" had declined significantly in the one year students had been back in the home school. Views of both fourth- and fifth-graders of "Ideal Self" had also declined since their attendance at the Advancement School. The change in students' views of their ideal self would indicate that they may have set more realistic expectations for themselves than they had at the time they attended the Advancement School.

Behavior. The behavior of students, as measured by the North Carolina Advancement School Student Behavior Inventory, had undergone some changes as a result of their participation in the Advancement School program. Of the four categories of behavior measured by the inventory, the category called "Alienation" has been found to be

most indicative of underachievement.[9] Followup ratings by home school teachers indicated a marked improvement in this behavior. (See Table 3; lower scores indicate less evidence of the behavior being rated.) The fourth-grade students showed some decrease in the behaviors composing the remaining factors particularly "activity" (significant at the .01 level), while the fifth-graders showed an increase. A comparison of behavior ratings prior to entrance and after return to the home school is presented in Table 4, along with comparable norms for the two groups of students. It can be observed that fourth-graders were above the norm in all categories at the time of entrance; however, after their attendance at the Advancement School, their behavior had changed in the direction of the norm. In the categories of activity and aggression, the fourth-graders exhibited behavior better than typical students.

Fifth-grade students did not show evidence of the positive behavior changes of the fourth-graders on the Student Behavior Inventory.

Academic Performance. Grades of students prior to entrance at the Advancement School were compared with their final grades after one year back in the home school. Because of the varied grading systems used by elementary schools, a code was devised as follows: Failing grades (below F) were assigned a value of 0; below average grades, 1; and average or better grades, 2. Thus the highest possible grades

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[9]Richard F. Allen, "The Behavior of Students Redefined," in The North Carolina Advancement School: Underachievement Redefined, Winston-Salem, North Carolina, 1970.

TABLE 4. Comparison of Mean Scores Obtained by Advancement School Students on the North Carolina Advancement School Student Behavior Inventory with Mean Scores of Typical Students.[10]

	NCAS Students Pre-Entrance	Norm	NCAS Students Followup	Norm
ACTIVITY				
Fourth-Grade	6.85	5.33	5.05	5.41
Fifth-Grade	6.35	5.41	6.53	4.94
AGGRESSION				
Fourth-Grade	15.70	14.99	15.50	16.30
Fifth-Grade	18.59	16.30	20.21	14.52
ALIENATION				
Fourth-Grade	25.40	20.99	23.55	21.22
Fifth-Grade	27.21	21.22	25.76	20.06
ANXIETY				
Fourth-Grade	10.10	8.11	9.40	8.95
Fifth-Grade	10.35	8.95	11.15	8.46

[10]See Richard F. Allen, "The Behavior of Students Redefined," op. cit., for normative data.

would be coded as 2. Grades were obtained for four academic subjects--reading or language arts, math, science, and social studies. Results of the comparison of grades before and after enrollment at the Advancement School may be observed in Table 3.

Both fourth- and fifth-grade students evidenced improved grades. For fourth-graders the improvement was not statistically significant; however, overall grades had increased from 1.55 prior to entrance at the Advancement School, to 1.71 after attending the school. Fifth-graders, however, showed significant improvement in overall grades, which had increased from 1.19 to 1.41 ($p < .05$). An increase significant at the .01 level of confidence was noted for mathematics grades, which had increased from .97 to 1.33. Language arts grades had improved from 1.24 to 1.59, significant at the .025 level. Some improvement for fifth-graders was noted in science.

These data offer statistical evidence that the Advancement School program resulted in improved academic performance by students.

OTHER ANALYSES

A statistical comparison of pre-test scores of rising fourth- and fifth-graders and underachievers of other grades who have attended the Advancement School was possible on two assessments. Table 5 presents comparative data on the IAR Scale and the California Test of Personality.

As can be seen in Table 5, fourth- and fifth-grade boys entering the Advancement School scored lower than any group on both the IAR and

TABLE 5. Pre-Test Comparisons by Grade Levels on the IAR Scale and California Test of Personality for Underachievers Attending The North Carolina Advancement School Spring, 1968 - Summer, 1969.

Variable	Fourth (N=24)	Fifth (N=45)	Sixth (N=107)	Seventh (N=111)	Eighth (N=94)
IAR Scale					
Positive	11.46	12.84	12.82	12.97	11.90
Negative	8.88	10.07	12.08	11.92	11.33
Total	20.46	23.00	25.16	25.51	23.23
	(N=24)	(N=45)	(N=36)	(N=35)	
California Test of Personality					
Personal Adj.	37.96	40.70	41.67	44.86	-----
Social Adj.	35.83	37.61	38.94	42.34	-----
Total Adj.	36.21	39.80	40.89	43.26	-----

the California Test of Personality. With each increasing grade level, there was an increase in scores on the California Test of Personality. This was also true on the IAR Scale except for eighth-grade underachievers, who scored lower than seventh-graders.

Another analysis undertaken for this study was a comparison of results by grade levels on the IAR Scale on a pre-test, post-test, followup basis. These data are presented in Table 6.

The results on the IAR Scale indicate that all students attending the Advancement School increased in their ability to assume responsibility for their overall school achievement. All groups, except sixth-graders (who entered the Advancement School with the highest total score of any group), increased from pre-test to post-test and from post-test to followup. The greatest positive change on the IAR Scale was that of fourth-graders who increased in total scores from 19.89 at pre-test, 22.08 at post-test, and 26.26 at followup.

Other statistical comparisons of the fourth- and fifth- graders with older students were not possible because the age difference necessitated the use of instruments for the younger students which did not require advanced reading ability.

SUMMARY

Analysis of the data obtained on rising fourth- and fifth-grade underachieving boys who attended the North Carolina Advancement School during the summer of 1969 indicated that significant changes resulted in several areas. One year after returning to their home school,

TABLE 6. Mean Scores on IAR Scale - Pre-Test, Post-Test, and Followup, Spring, 1968 - Summer, 1969.*

Grade	Positive			Negative			Total		
	Pre-Test	Post-Test	Followup	Pre-Test	Post-Test	Followup	Pre-Test	Post-Test	Followup
Fourth (N=20)	11.05	12.29	12.95	8.68	10.00	13.32	19.89	22.08	26.26
Fifth (N=34)	12.79	13.09	12.56	9.91	10.71	12.29	22.71	23.93	24.85
Sixth (N=71)	12.91	13.70	13.58	12.32	13.01	13.29	25.20	26.72	26.65
Seventh (N=76)	12.47	12.82	13.62	11.49	11.66	11.95	24.09	24.47	25.68
Eighth (N=94)	11.90	12.79	12.78**	11.33	11.99	12.36**	23.23	24.79	25.28**

*Fourth and fifth graders attended summer term of eight weeks; sixth, seventh, and eighth graders attended full term of sixteen weeks.

**Scores based on sampling of total group (N=36) as reported in the North Carolina Advancement School Research Report, Spring, 1968, Followup, Winston-Salem, North Carolina, November, 1969, p. 15.

both groups of students evidenced a greater ability to assume responsibility for their own learning, less alienation from school, and improved academic performance. Fourth-graders showed more improvement in behavior, while fifth-graders had made greater improvement in grades.

In comparison with underachieving students of sixth, seventh, and eighth graders who had attended the Advancement School, fourth-graders made greater gains in assuming responsibility for their own learning than any other group.

On the basis of these results, there are indications that younger students benefit more from a program designed to remedy underachievement. The students involved in this study will be followed at periodic intervals to determine whether their early treatment will be instrumental in preventing more serious problems in their later school years.

BIBLIOGRAPHY

Allen, Richard F., Ernestine Godfrey, and the North Carolina Advancement School. The North Carolina Advancement School Student Behavior Inventory. Winston-Salem, North Carolina, 1969.

Crandall, Virginia, W. Kathovsky, and S. Preston. "Motivational and Ability Determinants of Young Children's Intellectual Achievement Behaviors." Child Development, 33: 643-661, 1962.

Fitts, William H. Tennessee Self Concept Scale. Nashville: Counselor Recordings and Tests, 1965.

The Gates Reading Survey (revised). Columbia University: Bureau of Publications, 1960.

Intelligence, Achievement, Self-Concepts, and Attitudes Among 1216 Typical Sixth- and Seventh-Grade Students in Fourteen North Carolina Public Schools. The North Carolina Advancement School, 1970.

The North Carolina Advancement School Research Report, Spring 1968. Winston-Salem, North Carolina, August, 1968.

The North Carolina Advancement School Research Report, Summer 1968. Winston-Salem, North Carolina, January, 1969.

The North Carolina Advancement School Research Report, Fall 1968 and Spring 1969. Winston-Salem, North Carolina, October, 1969.

The North Carolina Advancement School Research Report, Spring 1968 Followup. Winston-Salem, North Carolina, November, 1969.

The North Carolina Advancement School: Underachievement Redefined. A Series of Papers Presented to the 1970 New Orleans Convention of the American Personnel and Guidance Association. Winston-Salem, North Carolina, March, 1970.

Osgood, C.E., G. Soci, and P. Tannenbaum. The Measurement of Meaning. Urbana, Ill.: University of Illinois Press, 1957.

Thorpe, Lewis P., W. W. Clarke, and E. W. Tiegs. California Test of Personality. Monterey, California: California Test Bureau (a division of McGraw-Hill Book Company), 1942.